STORMWATER PLAN REVIEW CHECKLIST



PROJECT NAME:	JOB NO.:
Engineer:	Date Received:
Reviewed by:	Date Reviewed:

	Plan Stamped by a Professional Civil Engineer registered in the State of Georgia
PLAN	INCLUDED
Page #	Y/N I. ENVIRONMENTAL
	Narrative report describing existing conditions
	2. Heavy outline of the 100-year flood plain with Base Flood Elevation and Finished Floor
	Elevation of structure
	3. Location of all wetlands. Provide copy of Jurisdictional Determination or Permit from the
	USACE
	4. Location of all State Waters and applicable Undisturbed Buffer
	II. STORMWATER
	5. Plan of all impervious area(s), to include, but not limited to, roads, buildings, and parking
	lots
	6. Total impervious area provided, to include any changes in impervious area
	7. Existing and proposed topography [minimum of 2-foot contours recommended]
	8. Pad elevation(s) provided
	9. Stormwater Quality:
	a. Stormwater Quality Calculations/Review Tool Provided
	b. Runoff Reduction Provided
	c. Maintenance Agreement Provided
	10. Hydrology report for stormwater management facility(ies) including:
	a. Plan showing acreage and flows of all on-site and off-site drainage areas
	A contributing flow through the project. Study point(s) are shown on map.
	b. Basis for determining Runoff Coefficients/Curve Numbers & Times of
	Concentrations include calculations
	c. Inflow and outflow hydrograph of pre- and post-developed runoff for the
	1-, 25-, 50-, and 100- year storms
	d. Storage capacity and discharge rates with minimum of 30 minute detention time
	or routed design
	e. Storage facility designed to detain volume difference of runoff for the pre- and
	post-developed conditions
	f. Summary sheet showing pre-developed runoff, post-developed runoff and
	release rate of detained runoff for the 1-, 25-, 50-, 100-year storms
	g. Post-developed runoff is less than Pre-developed runoff through the 100-year
	storm
	h. Release rate for detained runoff from dry detention structures is 90% or less of the
	pre-developed runoff rate
	i. Release rate for detained runoff from wet or regional detention structures
	is 100% of the pre-developed runoff rate
	j. Size and location of detention facility; detention facility cannot be located within
1	100-year floodplain

	k. Water surface elevation of 50-year storm detained within the facility without
	engaging the principal spillway or riser
	I. Emergency Spillway sized to convey the 100-year storm assuming the stormwater
	management facility's outfall is 100% clogged providing a minimum freeboard of
	12 inches to the top of embankment
	m. No trees on the dam impoundment
	n. Cross-section of dam specifying type of core material and compaction
	requirements, to include outfall, berm, spillways, outlet control structure, design
	storm water surface elevations, pond bottom, pilot channels, and inflows
	o. Detailed construction information of outlet structure including buoyancy
	computations
	p. Bottom of dry detention facility sloped at a minimum fall of 2% to provide positive
	drainage. If grades cannot be achieved, a pilot channel used to convey low flows
	from each facility inlet to the outlet control structure
	11. Ponds to be deeded to Columbia County meet requirements in Section 4.5 of current
	Supplement to GSMM
	12. Hydraulic report and plan for storm drains and pipes designed for the 25-year storm
	including:
	a. Drainage area in acres to each inlet
	b. Runoff Coefficient & calculations for weighted coefficient
	c. Minimum time of concentration of 10 minutes
	d. Rainfall frequency
	e. Pipe capacity in cfs
	f. Peak flow in cfs
	g. Runoff velocity in fps:
	1. minimum 2.5 fps at pipe flow
	maximum 5 fps without energy dissipater
·	3. maximum 15 fps in pipe system
	h. Gutter Spread calculations shown meeting Section 5.2.1 of current Supplement to
	A CorGSMM, of Pride • A County of Vision • Endless Opportunities
	i. Hydraulic Grade Lines shown meeting Section 5.2.3 of current Supplement to
	GSMM
$ldsymbol{ldsymbol{\sqcup}}$	j. Inverts for all pipes and traps shown
	k. Length, grade, size, and type of pipe; minimum pipe diameter 18"
	I. Location of drainage structures on adjacent property with direction of flow
	indicated with arrows
	m. Profiles of storm sewer system shown providing elevations, crossings, and design
	storm hydraulic grade lines
	13. Easements sized in accordance with Section 5.2.3 (6) of current Supplement to GSMM
	14. No traps allowed in radii; No grate traps allowed in roadway
	15. Minimum 18" separation between storm lines and sanitary sewer lines

16. Pipe material
Within right-of-way:
O-ring gasketed RCP
High Performance Polypropylene (PP)
Outside right-of-way:
O-ring gasketed RCP
Tongue and groove RCP
High Performance Polypropylene (PP)
High Density Polyethylene (HDPE)
 Smooth-lined, Corrugated Polyethylene (CPP)
17. 18" minimum pipe cover on RCP; 24" minimum pipe cover on CPP and HDPE; and GDOT
requirements shown for PP. Bedding details provided for all storm pipe materials
 in accordance with Columbia County Specifications
18. Details for all stormwater structures are shown. GDOT details: 1019A (Precast & Brick),
 1030P, 1030D, 1033, 1034, 1120, 1125, and 9031U; Columbia County Weep Hole Detail
19. Pipes extended to limits of the State Waters Buffer allowing for installation of outfall
 BMP's
20. Flared end sections shown on pipes up to 42" and outlet velocities less than 5 fps
21. Cast-in-place headwalls shown on pipes greater than 42"
22. Headwalls with energy dissipation devices and/or channel protection provided for
 outlet velocities exceeding 5 fps
23. Collars shown in pipes with slopes greater than:
a. 20% for RCP
b. 15% for CPP & HDPE
24. Swales meet Section 5.5 of current Supplement to GSMM. Cross sections provided
25. French drain plan showing location of french drain in areas of roadway with greater than
4 feet of cut and other areas as needed
III. NOTES TO BE SHOWN
26. All construction to conform to Columbia County Standards and Specifications
27. The contractor will coordinate the work with the utility companies and will verify all
existing pipe inverts and existing road elevations prior to construction
28. Notify the County Engineer's office 48 hrs prior to starting construction, pouring trap tops,
 dumping base, or paving
29. Notify Columbia County Stormwater Utility office 24 hrs prior to construction of
stormwater infrastructure
30. All boxes and traps having a depth greater than 4' must have steps vertically and ring and
covers aligned for ready access to rungs
31. Full width of the right-of-way and additional utility easement must be cleared & graded
with a slope of 1/4" to 1/2" per foot
32. No marquee, island or sprinkler system may be located within County R/W
33. Initial BMPs must be in place prior to clearing, regardless of plan requirement or lot size.
No clearing or grading may be done until Initial BMP installation is complete. Contractor
must contact Environmental Services for inspection BMPs prior to beginning clearing or
 grading activities
34. All easements to be grassed and/or rip-rapped as required to control erosion

35. Developers and/or Contractors are responsible to remove or clean out silt, dirt, mud or any other type of debris that comes off their site and finds its way into a private pond, onto private property, into a County owned pond or County owned property to include rights-of-way
36. Columbia County may require additional rip-rap at discharge points and stilling structures
37. Columbia County may require additional swales along rear and/or side lot lines after development begins
38. Columbia County may require additional french drains
39. The contractor will adhere to the weight limits prescribed on County maintained roads for hauling equipment and/or materials to and from this site. The contractor will be held responsible for any damages to the streets and/or utilities due to non-compliance of weight limit regulations

